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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,430	06/25/2003	Chan-Soo Hwang	784-53	6328
28249 7590 05/02/2007 DILWORTH & BARRESE, LLP 333 EARLE OVINGTON BLVD. SUITE 702 UNIONDALE, NY 11553			EXAMINER MOORE, IAN N	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 05/02/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<p align="center"><b>Office Action Summary</b></p>	<p>Application No.</p> <p align="center">10/606,430</p>	<p>Applicant(s)</p> <p align="center">HWANG ET AL.</p>	
	<p>Examiner</p> <p align="center">Ian N. Moore</p>	<p>Art Unit</p> <p align="center">2616</p>	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 15 is/are rejected.
- 7) ☒ Claim(s) 2-14, 16-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9-28-05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because there is a lack of descriptive text legends for FIG. 2,8,10 and 11 (e.g. in FIG. 2, “42” should be labeled as “symbol 42”, “A” should be labeled as “length A”); FIG. 16 and 17 (e.g. in FIG. 16-17, each line graph should be labeled with brief text label) [see 37 CFR 1.83, CFR 1.84 [5(e)], MPEP § 608.02(e)].

### *Claim Objections*

2. Claims 1-19 are objected to because of the following informalities:

**Claim 1** recites the clause the optional language “**adapted to**” in lines 2. The claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. Applicant is suggested to revise the claim, or clarify that the steps, which follows “adapted to”, to be performed are required (not optional).

**Claim 15** is also objected for the same reason as set forth above in claim 1.

**Claim 2** recites, “**a control channel**” in line 6 and 9. It is unclear whether these “a control channel” are the same as “a control channel” recited in line 4.

**Claim 6** recites, “**a micro format**” in line 11. It is unclear whether this “a micro format” is the same as “a micro format” recited in line 6.

**Claim 7** recites, “**a micro format**” in line 6. It is unclear whether this “a micro format” is the same as “a micro format” recited in line 3.

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**Claim 7** recites, "...method of claim 2, wherein step (d) comprises...step (f) comprises...step (g) comprises..." It is unclear whether theses "step (d)", "step (f)" and "step (g)" are the same as "step(d)", "step (f)" and "step (g)" recited in claim 2.

**Claim 15** recites "the result" in line 4. There is insufficient antecedent basis for this limitation in the claim.

**Claims 3-5,8-14, and 16-19** are also objected since they are depended upon the objected claims set forth above.

Appropriate corrections are required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van (EP 0869647) in view of Kostic (US007079503B2).

**Regarding Claim 1**, Van discloses an orthogonal frequency division multiplexing (OFDM) communication method (see FIG. 1, OFDM transmitter is performing processes/methods) to adapt to channel characteristics, comprising the steps of changing at least one of a length of a transmission symbol (see page 3, line 24-31; symbol duration/length (Ts)), a format of a frame (see page 3, line 24-31; number of carriers (N) in a frame), and a format of the transmission symbol (see page 3, line 24-31; number of bits per

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symbol) depending on a type of the transmission symbol in which communication is performed (see FIG. 1, per received input/indication/signal from dynamic rate control 15 which indicates the category/type/sort of received symbol for communication; see page 3, line 24 to page 5, line 47).

Although Van discloses a symbol duration/length is adjusted/scaled, which is, used as guard time/interval (see page 3, line 24-31), Van does not explicitly disclose a radius of a cell. However, it is well known in the art that a symbol duration/length is adjusted/scaled according to as guard time/interval to compensate propagation delay. In particular, Kostic teaches determining according to a radius of a cell (see col. 4, line 10-44; determining according to cell radius (1,2,5,10 km)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a radius of a cell, as taught by Kostic in the system of Van, so that it would provide wireless services efficiently; see Kostic col. 2, line 29-33; see col. 3, line 25-26.

**Regarding Claim 15**, Van discloses an orthogonal frequency division multiplexing (OFDM) communication apparatus (see FIG. 1, OFDM transmitter) to adapt to channel characteristics, comprising:

a symbol inspector (see FIG. 1, Dynamic Rate Control 15), for inspecting a type of a transmission symbol (see page 4, line 9-36; determining/evaluating category/type/sort of received symbol) and outputting the result of the inspection as a first control signal (see FIG. 1, responding the evaluated/determined scaled/adjusting input/indication/signal to a combined system of coding 14, IFFT 16 and cyclic prefix and windowing 18); see page 4, line 16 to page 5, line 34); and

a symbol and format converter (see FIG. 1, a combined system of coding 14, IFFT 16 and cyclic prefix and windowing 18), for changing at least one of a length of a transmission symbol (see page 3, line 24-31; symbol duration/length ( $T_s$ )), a format of a frame (see page 3, line 24-31; number of carriers ( $N$ ) in a frame), and a format of the transmission symbol (see page 3, line 24-31; number of bits per symbol) in response to the first control signal in which communication is performed (see FIG. 1, per received input/indication/signal from dynamic rate control 15 for communication; see page 3, line 24 to page 5, line 47).

Although Van discloses a symbol duration/length is adjusted/scaled, which is, used as guard time/interval (see page 3, line 24-31), Van does not explicitly disclose a radius of a cell. However, it is well known in the art that a symbol duration/length is adjusted/scaled according to as guard time/interval to compensate propagation delay. In particular, Kostic teaches determining according to a radius of a cell (see col. 4, line 10-44; determining according to cell radius (1,2,5,10 km)). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a radius of a cell, as taught by Kostic in the system of Van, so that it would provide wireless services efficiently; see Kostic col. 2, line 29-33; see col. 3, line 25-26.

***Allowable Subject Matter***

5. **Claims 2-14 and 16-19** are objected to as set forth in paragraph 2 and being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

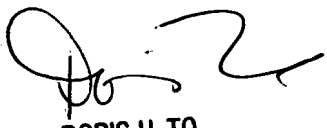
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N. Moore whose telephone number is 571-272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 571-272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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4/24/07

  
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